



PL1500M LCD Monitor

USER'S GUIDE

www.planar.com

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Monitor Features

The monitor features include:

- ⇒ Automatic configuration to the computer video settings with the maximum XGA resolution
- ⇒ Three control buttons plus OSD (on-screen display) for the monitor setting adjustment and configuration with ease and instant feedback
- ⇒ A swivel feature that enables viewing flexibility
- ⇒ A tilt feature to optimize the viewing position
- ⇒ An anti-glare coating on the panel to reduce the reflection of the ambient light
- ⇒ Flicker-free performance across all recommended video modes
- ⇒ Supporting high refresh rates up to 75 Hz
- ⇒ VESA DDC2B Plug-and-Display compliant
- ⇒ VESA mounting interface on stand base
- ⇒ A power-saving feature that is compatible with Microsoft® Windows
- ⇒ Compliance with Swedish MPR II guidelines for reduced electromagnetic emissions

Content of Package

When you are unpacking the monitor, make sure that you have the following items:

- ⇒ LCD monitor
- ⇒ AC power adapter with attached power cable
- ⇒ Power cord
- ⇒ Analog video signal cable
- ⇒ Audio signal cable
- ⇒ User's Manual
- ⇒ Planar landing strip
- ⇒ Planar Connection CD-ROM

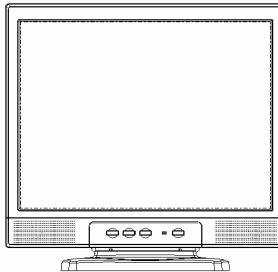
If you find that any of these items are missing or appear damaged, please contact your dealer immediately. Do not throw away the packing material or shipping carton in case you need to ship or store the LCD Monitor in the future.

Quick Start

This latest LCD monitor has a 15-inch active matrix TFT (thin film transistor) liquid crystal display module. It is designed for use with any Windows®-based computer. The monitor's compact-sized design provides great space savings on your computer desk.

Front Panel Controls

There are one **Power** button and three control buttons on the front panel of the monitor, as well as a power indicator for power status indication.



Power Button

Use the **Power** button located at the lower right side of the front panel of your display to turn on and off the monitor. The power indicator will illuminate in green color while the monitor is on, and illuminate in amber color when the monitor is in a reduced power mode.

Note: Because of the technology used in LCD panels, screen savers will not prolong the life of your monitor. So if the monitor will not be used for an extended period, be sure to turn it off.

Warning

To completely disconnect power from your display, you must remove the power cord from the wall outlet and then remove the power cable from the monitor.

Quick Start

Control Buttons

The functions of the three control buttons which are located at the lower left side of the front panel of your display are described as below:

Button	Function
Select	(1) Display the OSD Main Menu. (2) Perform the function selected in the OSD menu.
Up (△)	(1) Move upward to select an item, or increase the setting value in the adjustment bar. (2) Display the audio menu (direct key function).
Down (▽)	(1) Move downward to select an item, or decrease the setting value in the adjustment bar. (2) Perform Auto setup (direct key function).

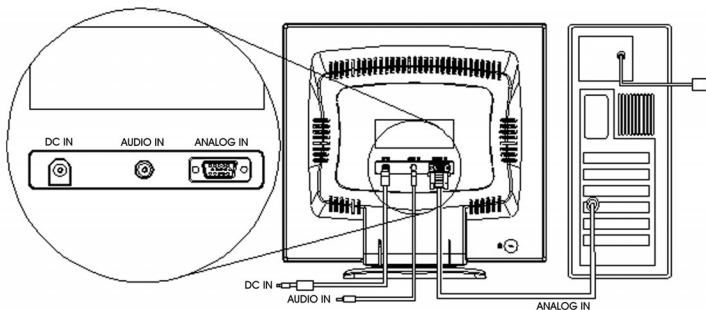
Set-up Instructions

Making the Connections

Note: *Place the monitor on a flat, sturdy surface. Select an area free from excessive heat, moisture, and sunlight.*

Before connecting any cables, make sure that both the computer and monitor are turned off.

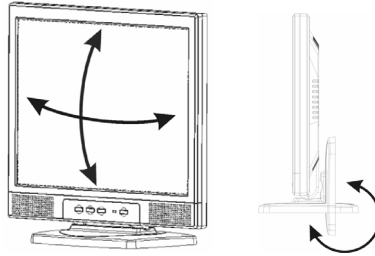
1. Connect the AC power adapter with the power cord.
2. Connect the power cord to the power jack on the back of the monitor (as shown below).
3. Plug the power cord into a power outlet, and plug the other end into the AC power adapter.



4. Plug the analog video signal cable into the Analog Video Input port on the back of the monitor (as shown above).
5. Connect the other end of the video signal cable into your computer's video port. (Please check your computer's documentation if you're not sure where the port is located.)
6. Plug the audio signal cable to the Audio port on the back of the monitor; connect the other end of audio signal cable to your computer's audio port.

Tilting the Monitor

The monitors have a tilt feature that allows you to tilt the monitor back and forth as well as left and right to find the most comfortable viewing position. To tilt the monitor, grasp the sides and push the monitor back or pull it toward you, or turn it left or right until it is in the desired position. The monitor can be tilted 20° backward and 5° forward, or 45° left and 45° right.



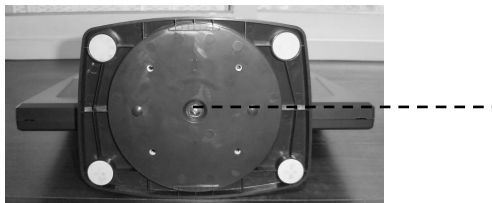
Note: *Do not tilt the monitor by grasping the top edge.*

Mounting the Monitor

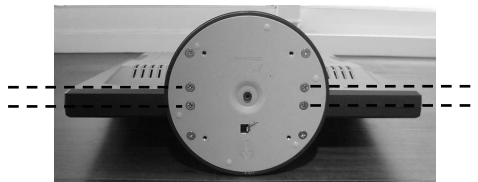
You can remove the monitor base to mount the monitor on a wall, a swing arm or other mounting fixture.

Note: *Be sure to turn off the monitor and disconnect all cables before beginning the disassembling procedure.*

1. Lay the front bezel down on a soft area.
2. Remove the screw at the bottom of the monitor base.



3. Remove the four screws as shown in the following illustration.



3. Remove the monitor base from the monitor.
4. To mount the monitor, follow the instructions included with the mounting fixture to be used.

Power Management Feature

Many computers support industry standard power-save signaling techniques. The power management features reduce the monitor's power consumption after a period of keyboard or mouse inactivity.

When your computer supplies power saving signals to the monitor, the monitor's power management features reduce power consumption to low levels when your computer goes into its power-saving mode.

When the monitor is in a power-saving mode, the screen is blank and the power indicator is amber. Pressing a key on the keyboard or moving the mouse restores the image in several seconds. Consult your computer documentation for information about setting the power-saving modes.

If your computer doesn't use industry standard power-save signaling techniques, you can reduce power consumption by turning off the monitor when it will not be used for an extended period of time. You can turn the monitor off even if you leave your computer running.

Adjusting Monitor Settings

Use the OSD to easily adjust the screen image based on your viewing preferences.

Note: *You must perform Auto setup before making any adjustment.*

Note: *For the best display performance, it is strongly recommended that you use Auto setup to automatically configure your monitor's settings.*

OSD Main Menu

To display the OSD Main Menu, press the **Select** button.

The following table briefly describes each of the items in the OSD Main Menu.

Item	Description
Auto setup	Automatically configure the monitor's settings. See "Auto setup" on page 9.
Management	Open the Management sub-menu where you can select Brightness , Contrast or the image position for further adjustment. See "Management Sub-menu" on page 10.
Clock/Phase	Open the Clock/Phase sub-menu where you can select Clock or Phase for further adjustment. See "Clock/Phase Sub-menu" on page 11.
Color	Open the Color sub-menu where you can select Color Temp , Black Level Adjust and RGB Adjust for further adjustment. See "Color Sub-menu" on page 12.
OSD Display	Open the OSD Display sub-menu where you can select H. Position or V. Position of the OSD display for further adjustment. See "OSD Display sub-menu" on page 13.
Factory Recall	Restore the factory default setting values. See "Factory Recall" on page 13.
Language	Open the Language sub-menu where you can select one of the five languages for your preference in displaying the OSD messages. See "Language Sub-menu " on page 14.
Exit	Clear and exit the OSD Main Menu. See "Exiting OSD " on page 15.

Selecting Items in OSD

To select items in the OSD Main Menu, use the **Up** (▲) or **Down** (▼) buttons on the front panel of the monitor.

To select items in the OSD sub-menus, use all three, control buttons. Use the **Up** (▲) or **Down** (▼) buttons to move to a specific item, and accept the selection by pressing the **Select** button.

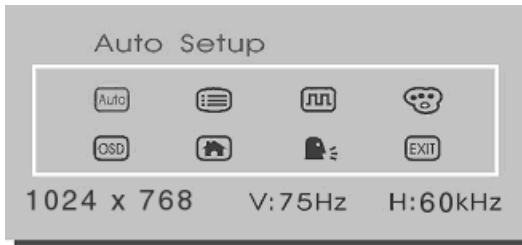
Auto setup

Use **Auto setup** whenever you apply a new video mode or change the refresh rate. While **Auto setup** is running, you should have a stable image displayed on the screen. Do not move items around the screen, play games, or view video during **Auto setup**.

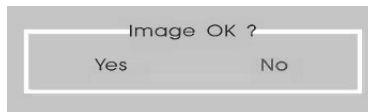
Once you have performed **Auto setup** for a particular mode, the monitor will store the new values in its permanent memory.

To perform the **Auto setup** function:

1. Press the **Select** button to display the OSD Main Menu.
2. The Auto setup icon is highlighted.



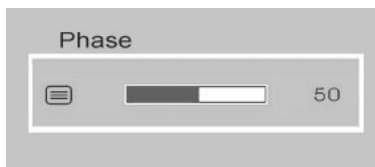
3. Press the **Select** button to perform the **Auto setup** function. The following message will appear on the screen.



If the image looks correct, select **Yes**.

OR

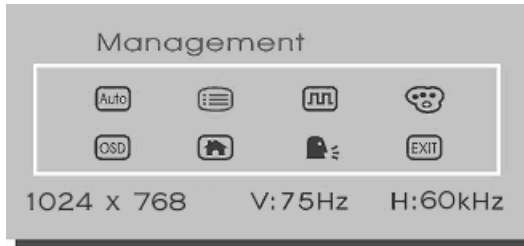
If the image requires further adjustment, select **No**. The Phase bar will appear for you to perform manual adjustments. Press the **Up** (Δ) or **Down** (∇) buttons to change the setting value. When all text appears focused and there is no instability in the image, press the **Select** button to exit the adjustment.



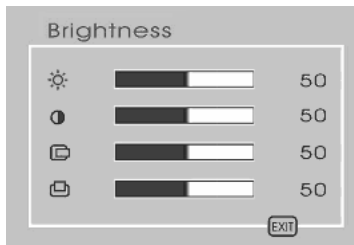
Management Sub-menu

To perform the adjustment in the **Management** sub-menu:

1. Press the **Select** button to display the OSD Main Menu.
2. Press the **UP** (▲) or **Down** (▼) button to move to the Management icon in the OSD Main Menu, and press the **Select** button.



3. The screen displays four items for adjustment: **Brightness**, **Contrast**, **H. Position** and **V. Position**.



- a. Press the **Up** (▲) or **Down** (▼) button to move the desired item and press the **Select** button.
 - b. Press the **Up** (▲) or **Down** (▼) button to change the setting value in the adjustment bar.
 - c. After changing the setting value, press the **Select** button to accept the adjustment.
4. After the adjustment, select **EXIT** to go back to the OSD Main Menu.

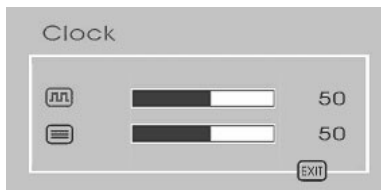
Clock/Phase Sub-menu

To adjust the “Clock/Phase” sub-menu you should follow the steps below:

1. Press the **Select** button to display the OSD Main Menu.
2. Press the **UP** (△) or **Down** (▽) button to move to the Clock/Phase icon in the OSD Main Menu, and press the **Select** button.



3. The screen displays two items for adjustment: **Clock** and **Phase**.

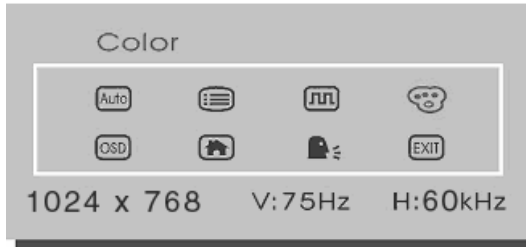


- a. Press the **Up** (△) or **Down** (▽) button to move the desired item and press the **Select** button.
 - b. Press the **Up** (△) or **Down** (▽) button to change the setting value in the adjustment bar.
 - c. After changing the setting value, press the **Select** button to accept the adjustment.
4. After the adjustment, select **EXIT** to go back to the OSD Main Menu.

Color Sub-menu

To do adjustment in the “Color” sub-menu you should follow the steps below:

1. Press the **Select** button to display the OSD Main Menu.
2. Press the **UP** (△) or **Down** (▽) button to move to the Color icon in the OSD Main Menu, and press the **Select** button.



3. The screen displays three items for adjustment: **Color Temp**, **Black Level Adjust** and **RGB Adjust**.

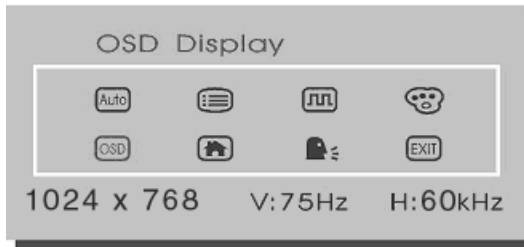


- a. Press the **Up** (△) or **Down** (▽) button to move the desired item and press the **Select** button.
 - b. Press the **Up** (△) or **Down** (▽) button to change the setting value in the adjustment bar.
 - c. After changing the setting value, press the **Select** button to accept the adjustment.
4. After the adjustment, select **EXIT** to go back to the OSD Main Menu.

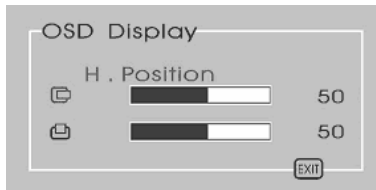
OSD Display sub-menu

To adjust the OSD H and V, positions you should follow the steps below:

1. Press the **Select** button to display the OSD Main Menu.
2. Press the **UP** (Δ) or **Down** (∇) button to move to the OSD Display icon in the OSD Main Menu, and press the **Select** button.



3. The screen displays two items for adjustment: **H. Position** and **V. Position**.



- a. Press the **Up** (Δ) or **Down** (∇) button to move the desired item and press the **Select** button.
 - b. Press the **Up** (Δ) or **Down** (∇) button to change the setting value in the adjustment bar.
 - c. After changing the setting value, press the **Select** button to accept the adjustment.
4. After the adjustment, select **EXIT** to go back to the OSD Main Menu.

Factory Recall

To recall factory settings back you should follow the steps below:

1. Press the **Select** button to display the OSD Main Menu.
2. Press the **UP** (Δ) or **Down** (∇) button to move to the Factory Recall icon in the OSD Main Menu, and press the **Select** button.

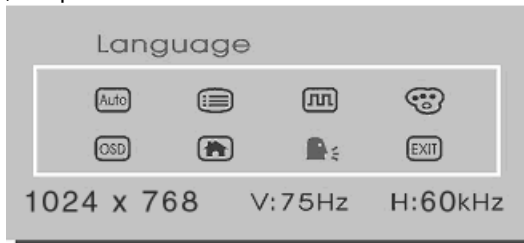


3. Press the **Select** button to restore the factory default setting values.

Language Sub-menu

To select one of the five languages for your preference you should follow the steps below:

1. Press the **Select** button to display the OSD Main Menu.
2. Press the **UP** (Δ) or **Down** (∇) button to move to the Language icon in the OSD Main Menu, and press the **Select** button.



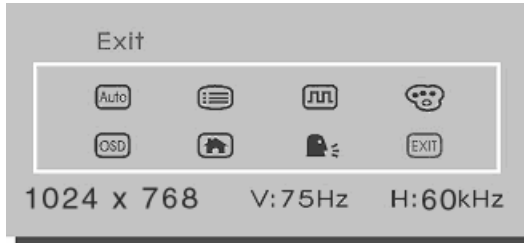
3. The screen displays five languages for selection.



Press the **Up** (Δ) or **Down** (∇) button to move the desired language and press the **Select** button. The change will take effect immediately.

Exiting OSD

To exit OSD, press the **UP** (Δ) or **Down** (∇) button to move to the EXIT icon in the OSD Main Menu, and press the **Select** button.



Using the Direct Keys

You can use two direct keys for adjustment without entering OSD. One of the two direct keys is for **Auto setup**, and the other is for the audio function.

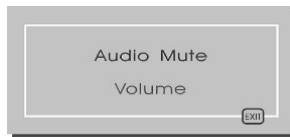
Performing Auto setup by Direct Key

To perform **Auto setup** by direct key, without entering OSD, simply press the **Down** (∇) button and **Auto setup** will start. See "Auto setup" on page 9 for Auto setup procedure.

Performing the Audio Function by Direct Key

To perform the audio function by direct key:

1. Without entering OSD, simply press the **Up** (Δ) button to display the audio menu.
2. The screen displays two items for selection: **Audio Mute** and **Volume**.



- a. Press the **Up** (Δ) or **Down** (∇) button to move the desired item and press the **Select** button.
 - b. Press the **Up** (Δ) or **Down** (∇) button to change the setting.
 - c. After changing the setting value, press the **Select** button to accept the adjustment.
3. After the adjustment, select **EXIT** to go back to the OSD Main Menu.

Technical Information

Monitor Specifications

Item	Specification
LCD Module	15-in, active matrix TFT, anti-glare coating, 0.297 mm pixel pitch
Display Size	304 mm x 228 mm
Viewing Angle Left/Right Up/Down	-70° / 70° (Typical) -65° / 60° (Typical)
Display Colors	262144 (6 bits/color)
Power Input	100 ~ 240 V _{AC} Full Range, 50/60 Hz (External AC adapter)
Maximum power consumption	< 30W
Signal Input Video Signal Sync signals	RGB positive 0.7V _{PP} , 75ohm Separate & Composite, TTL Level
Line (horizontal) frequency	30 kHz ~ 60 kHz
Raster (vertical) frequency	56 Hz ~ 75 Hz
Pixel dot clock	80 MHz (maximum)
Recommended mode	1024 x 768 @ 60 Hz
Pedestal tilt	20° backward, 5° forward ; 45° left, 45° right
Dimensions (W x H x D)	341 x 323 x 140 mm (with base)
Weight	3.0 kg
Operating Conditions Temperature Humidity Altitude	5° ~ 40°C at altitude 0 ~ 2,000m 5° ~ 30°C at altitude 2,000 ~ 3,000m 20% ~ 85% RH, non-condensing 3000m Max.
Storage Conditions Temperature Humidity Altitude	-20° ~ 60°C 5% ~ 95% RH 10,000m Max.

Video Modes

The monitor supports the following industry-standard combinations of screen resolution and refresh rates. Other combinations are possible, but may require adjustments to the image.

For the optimal performance, set your computer to a screen resolution of 1024 x 768 at a 60 Hz refresh rate.

Display Mode		Hsync (kHz)	Vsync (Hz)	Dot Frequency (MHz)
VGA	640 x 350	31.5	70	25.175
	640 x 480	31.5	60	25.175
		37.9	72	31.5
		37.5	75	31.5
		35.0	70	28.56
SVGA	800 x 600	35.1	56	36.0
		37.9	60	40.0
		48.1	72	50.0
		46.9	75	49.5
		43.75	70	45.5
XGA	1024 x 768	48.4	60	65.0
		56.5	70	75.0
		60.0	75	78.75
		57.672	72	78.434
US TEXT	720 x 400	31.5	70	28.3
Power MAC	640 x 480	35.0	67	30.5
	832 x 624	49.7	75	57.3

Note: *The monitor is capable of going beyond these recommended modes.*

Setting the Video Mode

Since the inherent format of this display is 1024 pixels by 768 lines, the monitor will perform best when your computer is set to a screen resolution of 1024 x 768. If you use a lower resolution (such as 640 x 480), the image is expanded to fill the screen.

Your display supports many common video modes, as shown in "Video Modes" on page 17. Check the documentation supplied with your computer and video adapter card to find out which modes they support.

To see what video mode is in use within Microsoft Windows, please check Windows' settings in your computer.

Setting the Refresh Rate

The image refresh *rate* is the number of times per second that the image is refreshed; it is also known as the *vertical frequency*.

On standard CRT displays, we recommend that you should use the highest possible refresh rate supported by your computer at the current screen resolution. This is necessary to avoid screen flickering and to minimize eyestrain. However, with your monitor, flicker is not an issue. It is flicker-free at all supported refresh rates.

The table in “Video Mode” on page 27 shows the image refresh rates supported by the monitor at different screen resolution. Although your monitor supports up to 75 Hz for analog video input, we recommend that you use **60 Hz** refresh rate for best performance.

To set the refresh rate with a standard Windows installation, follow the steps mentioned in your Unknown Video Modes

Like all other monitors, your monitor is designed to work with standard video modes. However, not all video/graphic cards use only standard display modes.

Your monitor uses state-of-the-art technology, which is designed to synchronize to any display mode. We recommend selecting one of the supported modes listed above. If you select an unknown mode, you will need to manually adjust the clock, phase, and image position.

If you must use an unknown mode, you can run **Auto setup** at first. If **Auto setup** doesn't provide the adequate image adjustment, then you must manually adjust the clock, phase, horizontal position, and vertical position.

Windows's or graphic card's user's manual.

Troubleshooting

Note: *If you cannot solve a problem using the troubleshooting tips listed below, please contact a qualified service person for help.*

A. My monitor doesn't work, even though the computer appears to work.

1. Make sure the power cord is securely plugged into the monitor.
2. Make sure the monitor is turned on.
3. Try turning the monitor off and then turning it on again.
4. Make sure the monitor's power cord is plugged into a power outlet and into the AC power adapter. Check to see whether the outlet works by plugging another device (such as a lamp) into the outlet. (If the light on the front of the monitor is lighted, it is getting power. Try the next item on this procedure.)
5. Check the cable connection between the monitor and the computer. The cable connectors must be pushed in all the way.

B. The message "Check Cable" appears on my screen.

This message appears when the video signal cable is not properly connected to the computer.

1. Make sure the analog video signal cable is plugged into the Analog Video Input port on the back of the monitor.
2. Make sure the other end of analog video signal cable is plugged into the computer's video port.

C. The message "No Sync." appears on my display.

This message appears when there is no video signal from the computer with cable already connected.

1. Make sure that the computer's power is turn on.
2. Make sure that your graphic card has its output already.

D. The message “Signal Out of Range” appears on my screen.

This message appears when the input signal is beyond the monitor's capability.

Set your computer to a supported video mode, preferably 1024 x 768 at 60 Hz.

See “Video Modes” on page 17.

E. The image is very unstable.

1. Set your computer to a supported video mode, preferably 1024 x 768 at 60 Hz. See “Video Modes” on page 17.
2. Restore the original factory settings by selecting **Factory Recall** in the OSD **Factory Recall** sub-menu.
3. Perform the **Auto setup** function. See “Performing Auto setup by Direct Key” on page 15.

Note: *Even if your computer's setting is out of the range of video modes that are supported by your monitor, it may still be displayed with reduced quality. This provides you with an opportunity to change your computer's setting to a correct one.*

Safety Precautions

For your safety and the protection of your monitor, follow these precautions:

- ⇒ Use only the factory-supplied power cord that shipped with your monitor.
- ⇒ To prevent electrical shock, do not disassemble the monitor. Contact the qualified service personnel for assistance.
- ⇒ Do not cover the air vents.
- ⇒ To avoid the risk of damage to the monitor and electrical shock to yourself, do not expose the monitor to rain or moisture.

If any of the following conditions occurs, unplug the monitor and contact the qualified service personnel:

- ⇒ The power cord or plug is frayed or damaged.
- ⇒ You have spilled liquid into the monitor.
- ⇒ The monitor has been exposed to rain or water.
- ⇒ The monitor does not operate correctly when the operating instructions are followed.
- ⇒ The monitor has been dropped or the cabinet has been damaged.

*In the case of loss or damage of the supplied adapter, contact the supplier for replacement.

Maintenance Guidelines

To maximize screen life and prevent damage to the LCD panel, we recommend that you do the following:

- ⇒ Use the monitor power management system (if available on your computer).
- ⇒ If you don't use a power management system, turn off the monitor when you will not be using it for an extended period of time.
- ⇒ Do not press, rub, or poke the screen with your finger or other object.
- ⇒ Handle your display with care.

Your LCD module is a high-quality optical device that requires special care when cleaning.

Warning

Don't use liquid, aerosol, or abrasive cleaning solutions to clean the screen.

To clean the screen:

1. Shut down the computer.
2. Turn off and unplug the monitor.
3. Gently dust the screen with a dry, soft, lint-free cloth.

Note: *If the screen is still dirty, you can dampen the cloth with several drops of distilled water. Make sure the LCD panel is completely dry before you turn the monitor on again.*

4. Connect the monitor to the computer and power.
5. Turn on your computer and monitor.

Regulatory Information

Agency Approvals

	European	USA
	CE Mark	
Safety	EN60950	UL1950, CSA950 BSMI
Emission	N95081-1	FCC Class Bn

N95082-1 ()Tj 149.44 149.781 210.54 -0.48 re 149.98 149.781 104.64 -0.4

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